

IN THE CLAIMS:

58. (Previously Presented) A plasma lamp, comprising:
a solid body of dielectric material with a dielectric constant greater than 2 and having at least a main part with a first surface and a second surface opposed to the first surface;
a feed inserted through the first surface into the main part of the solid body and configured to provide radio frequency energy to the solid body; and
a protruding portion of solid dielectric material surrounding a bulb, the bulb enclosing a gas fill positioned to receive the radio frequency energy from the solid dielectric body, the second surface coated with an electrically conductive material, and
at least a portion of the bulb enclosing the gas fill positioned above the main part of the solid body adjacent to the second surface.
59. (Previously Presented) The plasma lamp of claim 58
wherein the protruding portion of solid dielectric material protrudes from the main part of the solid body adjacent to the second surface and surrounds at least a portion of the bulb.
60. (Canceled)
61. (Previously Presented) The plasma lamp of claim 58 further comprising:
a heat sink surrounding the protruding portion of solid dielectric material.
62. (Previously Presented) The plasma lamp of claim 58 further comprising:
a power source adapted to provide radio frequency energy to the solid body through the feed at a frequency that resonates within the solid body.
63. (Previously Presented) The plasma lamp of claim 59 wherein the protruding portion of dielectric material is smaller than the main part of the solid body of dielectric material.

-
64. (Previously Presented) The plasma lamp of claim 58 wherein the protruding portion of dielectric material is smaller than the main part of the solid body of dielectric material.
65. (Previously Presented) The plasma lamp of claim 58 wherein at least a portion of the bulb is positioned over a central region of the main part of the dielectric body.
66. (Previously Presented) The plasma lamp of claim 58 wherein the solid body forms an opening and at least a portion of the bulb is positioned in the opening.
67. (Previously Presented) The plasma lamp of claim 66, wherein the outer surfaces of the solid body other than the surfaces in the opening are substantially coated with an electrically conductive material.
68. (Previously Presented) The plasma lamp of claim 58 wherein the bulb is positioned above a plane that contains the second surface.
69. (Previously Presented) The plasma lamp of claim 58 wherein the dielectric material comprises alumina.
70. (Previously Presented) The plasma lamp of claim 58 further comprising:
a power source adapted to provide radio frequency energy to the solid body through the feed at a frequency that resonates within the solid body in a fundamental mode.
71. (Previously Presented) The plasma lamp of claim 58 further comprising:
a power source adapted to provide radio frequency energy to the solid body through the feed at a frequency that resonates within the solid body, wherein the solid body has at least one dimension equal to about one-half the wavelength of the resonant energy in the solid body.
72. (Previously Presented) The plasma lamp of claim 58 wherein the solid body forms an opening and at least a portion of the bulb is positioned in the opening.
- /

73. (Previously Presented) The plasma lamp of claim 72, wherein the outer surfaces of the solid body other than the surfaces in the opening are substantially coated with an electrically conductive material.

74. (Previously Presented) The plasma lamp of claim 70 wherein the solid body forms an opening and at least a portion of the bulb is positioned in the opening.

75. (Previously Presented) The plasma lamp of claim 74, wherein the outer surfaces of the solid body other than the surfaces in the opening are substantially coated with an electrically conductive material.

76. (Previously Presented) The plasma lamp of claim 58, further comprising a second feed inserted into the solid body.

77. (Previously Presented) The plasma lamp of claim 76, wherein the second feed is adapted to obtain feedback from the solid body.

78. (Previously Presented) The plasma lamp of claim 58, further comprising:
a power source adapted to provide radio frequency energy to the solid body through the feed at a frequency that resonates within the solid body; and
a second feed inserted into the solid body adapted to sample radio frequency energy from the solid body.

79. (Previously Presented) The plasma lamp of claim 78, wherein the second feed is coupled to the power source to provide feedback to the power source from the solid body.

80. (Previously Presented) The plasma lamp of claim 79 wherein the solid body forms an opening and at least a portion of the bulb is positioned in the opening.

81. (Previously Presented) The plasma lamp of claim 80, wherein the outer surfaces of the solid body other than the surfaces in the opening are substantially coated with an electrically conductive material.

82. (Previously Presented) The plasma lamp of claim 58, wherein the frequency is within the range of 0.5 to 30 GHz.

83. (Previously Presented) A plasma lamp, comprising:

a solid body of dielectric material with a dielectric constant greater than 2 and having at least a main part with a first surface and a second surface opposed to the first surface;

a feed inserted through the first surface into the main part of the solid body and configured to provide radio frequency energy to the solid body;

a bulb enclosing a gas fill positioned to receive the radio frequency energy from the solid dielectric body; and

a power source adapted to provide radio frequency energy to the solid body through the feed at a frequency that resonates within the solid body, wherein the solid body has at least one dimension equal to about one-half the wavelength of the resonant energy in the solid body,

the second surface coated with an electrically conductive material, and

at least a portion of the bulb enclosing the gas fill positioned above the main part of the solid body adjacent to the second surface.

84. (Previously Presented) The plasma lamp of claim 83, wherein at least a portion of the bulb is positioned over a central region of the main part of the solid body.

85. (Previously Presented) The plasma lamp of claim 83, wherein the solid body forms an opening and at least a portion of the bulb is positioned in the opening.

86. (Previously Presented) The plasma lamp of claim 85, wherein outer surfaces of the solid body other than the surfaces in the opening are substantially coated with an electrically conductive material.

RESPONSE TO EX PARTE QUAYLE ACTION

Serial Number: 10/771,788

Filing Date: February 4, 2004

Title: PLASMA LAMP WITH DIELECTRIC WAVEGUIDE

Page 6

Dkt: 2447.001US2

87. (Previously Presented) The plasma lamp of claim 83, wherein the bulb is positioned above a plane that contains the second surface.

88. (Previously Presented) The plasma lamp of claim 83, wherein the dielectric material comprises alumina.

89- 97 (Canceled)